

RUNE

Appl. No. 09/638,858

June 14, 2004

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A radio access network comprising:

plural radio network controllers including a first radio network controller, the plural radio network controllers being situated to establish one or more overlapping routing areas, each overlapping routing area comprising a cell controlled by the first radio network controller and at least one cell controlled by another of the plural radio network controllers;

wherein for signaling the first radio network controller need only store network addresses for:

any of the plural radio network controllers which controls a cell in any overlapping routing area; and

any of the plural radio network controllers which functions as a serving radio network controller for a connection for which the first radio network controller functions as a drift radio network controller.

2. (Original) The apparatus of claim 1, further comprising a signaling network connecting the plural radio network controllers, wherein one of the plural radio network controllers is a serving radio network controller which controls a connection between a core network and a user equipment unit, wherein when the user equipment unit moves from a first routing area to a second routing area, the second routing area being an overlapping routing area in which a second radio network controller also controls cells, the first radio network controller sends, in a signaling message to a serving radio network controller, both (1) an address of the first radio network controller, and (2) the address of the second radio network controller, thereby enabling the serving radio network controller to page the user equipment unit throughout the overlapping routing area.

3. (Original) A radio network controller for a radio access telecommunications network which uses, as criteria for which other radio network controllers to store addresses, only:

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those other radio network controllers which controls cells in overlapping routing area(s), the overlapping routing area(s) also having at least one cell controlled by the radio network controller; and

those other radio network controllers which function as a serving radio network controller for a connection for which the radio network controller functions as a drift radio network controller.

4. (Original) The apparatus of claim 3, wherein when the radio network controller serves as a drift radio network controller, and wherein when an user equipment unit moves from a first routing area to a second routing area, the second routing area being an overlapping routing area, the radio network controller sends, in a signaling message to a serving radio network controller, both (1) an address of the radio network controller, and (2) the address of any other radio network controller having cells in the overlapping routing area, thereby enabling the serving radio network controller to page the user equipment unit throughout the overlapping routing area.

5. (Original) A method of operating a radio access network comprising:
providing plural radio network controllers;
providing one or more overlapping routing areas, each overlapping routing area comprising a cell controlled by a first radio network controller and a cell controlled by another of the plural radio network controllers;
regarding addresses of other radio network controllers in the radio access network, requiring the first radio network controller, for signaling purposes, only to store network addresses for:

any of the plural radio network controllers which controls a cell in the one or more overlapping routing area;

any of the plural radio network controllers which functions as a serving radio network controller for a connection for which the first radio network controller functions as a drift radio network controller.

6. (Original) The method of claim 1, wherein one of the plural radio network controllers is a serving radio network controller which controls a connection between a core network and a user equipment unit, wherein when the user equipment unit moves from a first

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routing area to a second routing area, the second routing area being an overlapping routing area in which a second radio network controller also controls cells, the method further comprising:

the first radio network controller sending, in a signaling message to a serving radio network controller, both (1) an address of the first radio network controller, and (2) the address of the second radio network controller, thereby enabling the serving radio network controller to page the user equipment unit throughout the overlapping routing area.

a 3 PLEASE ADD NEW CLAIMS 7 - 12 AS FOLLOWS:

7. (New) A radio access network comprising:

plural radio network controllers including a first radio network controller, the plural radio network controllers being situated to establish one or more overlapping routing areas, each overlapping routing area comprising a cell controlled by the first radio network controller and at least one cell controlled by another of the plural radio network controllers;

wherein for signaling a routing area update request message for a user equipment unit which is in a low activity state, the first radio network controller need only store network addresses for:

any of the plural radio network controllers which controls a cell in any overlapping routing area; and

any of the plural radio network controllers which functions as a serving radio network controller for a connection for which the first radio network controller functions as a drift radio network controller.

8. (New) A radio access network of claim 7, further comprising a signaling network connecting the plural radio network controllers, wherein one of the plural radio network controllers is a serving radio network controller which controls a connection between a core network and a user equipment unit, wherein when the user equipment unit moves from a first routing area to a second routing area, the second routing area being an overlapping routing area in which a second radio network controller also controls cells, the first radio network controller sends, in a signaling message to a serving radio network controller, both (1) an address of the first radio network controller, and (2) the address of the second radio network

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controller, thereby enabling the serving radio network controller to page the user equipment unit throughout the overlapping routing area.

9. (New) A radio network controller for a radio access telecommunications network which uses, as criteria for which other radio network controllers to store addresses for use in signaling a routing area update request message for a user equipment unit which is in a low activity state, only:

those other radio network controllers which controls cells in overlapping routing area(s), the overlapping routing area(s) also having at least one cell controlled by the radio network controller; and

those other radio network controllers which function as a serving radio network controller for a connection for which the radio network controller functions as a drift radio network controller

a b 10. (New) The apparatus of claim 9, wherein when the radio network controller serves as a drift radio network controller, and wherein when an user equipment unit moves from a first routing area to a second routing area, the second routing area being an overlapping routing area, the radio network controller sends, in a signaling message to a serving radio network controller, both (1) an address of the radio network controller, and (2) the address of any other radio network controller having cells in the overlapping routing area, thereby enabling the serving radio network controller to page the user equipment unit throughout the overlapping routing area.

11. (Original) A method of operating a radio access network comprising:
providing plural radio network controllers;
providing one or more overlapping routing areas, each overlapping routing area comprising a cell controlled by a first radio network controller and a cell controlled by another of the plural radio network controllers;
regarding addresses of other radio network controllers in the radio access network, requiring the first radio network controller, for signaling a routing area update request message for a user equipment unit which is in a low activity state, only to store network addresses for:

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any of the plural radio network controllers which controls a cell in the one or more overlapping routing area;

any of the plural radio network controllers which functions as a serving radio network controller for a connection for which the first radio network controller functions as a drift radio network controller.

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12. (New) The method of claim 11, wherein one of the plural radio network controllers is a serving radio network controller which controls a connection between a core network and a user equipment unit, wherein when the user equipment unit moves from a first routing area to a second routing area, the second routing area being an overlapping routing area in which a second radio network controller also controls cells, the method further comprising:

the first radio network controller sending, in a signaling message to a serving radio network controller, both (1) an address of the first radio network controller, and (2) the address of the second radio network controller, thereby enabling the serving radio network controller to page the user equipment unit throughout the overlapping routing area.

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AMENDMENTS TO THE DRAWINGS

The attached sheets of formal drawings include changes to Fig. 5 and Fig. 7.

Attachment: Replacement Sheet(s)
Annotated Sheet Showing Changes